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The T'ai-p'ing-k'ou gates were built by a group of firms in Hankow, the Chiang-shan Ship Machinery Company and the Chiang-an Bridge-Building Works being the leaders. It was necessary for the work to be completed before the end of May to meet installation deadline. The workers devised many shortcuts to save time and material. For example, they divided the worm gear casting patterns into eight sections, and this resulted in a saving of over 1,000 man-days of labor. The time required for making the casting molds was reduced from 12 days to one and one-half man-days.

The original plans called for four rows of rivets on lock-gate plate joints. Further study revealed that the shearing resistance of the rivets had been estimated at less than half their actual capacity and that two rows of rivets at each joint would be ample to meet the maximum strains likely to occur. Adoption of the two-row plan saved 120,000 steel rivets. An original plan to cover the upright lattice beams of the gate anchor piers with steel plate was abandoned as a saving of 120 tons of steel or 3½ billion yuan. Another 800 million yuan was saved by changing the spacing of the concrete reinforcing bars from 12 centimeters apart to 24 centimeters apart in certain parts of the concrete structures.

ECONOMIES EFFECTED ON CHING CHIANG CONSTRUCTION -- Hankow, Ch'ang-chiang Jih-pao, 11 May 52

Railway shop workers were brought from Shanghai, Tientsin, and the North-east to the railway shops of the Heng-yang Division of the Canton-Hankow Railway in C'hang-sha, Hunan, to join the local workers in building the lock gates for the Huang-shan-t'ou lock of the Ching Chiang flood diversion project. These gates weigh 800 tons.

Work was started 9 April 1952. By 29 April, five locks and eight worm pinions had been completed 7 days ahead of schedule. The workers have shown great ingenuity in devising over 40 new types of tools to speed the work and save materials with no diminution of quality in the finishing product. The time required to bend channel iron to the required arc was reduced from 50 minutes to 12 minutes per operation. One workman designed a pattern for drilling holes in channel iron that eliminated the necessity for the use of chalk lines. One group, cutting fan-shaped plates, raised their production from 20 to 45 pieces a day. A lad in the forging shop devised a method of making three heats at once. There were 320,000 holes to be drilled in plates from 3 to 4 inches thick. Since electric drills were scarce, several tens of hand drills were secured. The number of holes one man could drill by hand in one day was increased from 107 to 200.

Plans to use piling for the foundation of the 1,054-meter inlet lock at T'ai-p'ing-k'ou on the Ching Chiang project, based on American practice, were dropped in favor of the plan of using the concrete splash apron as a foundation and a barrier to hold the bottom of the lock gates firm against water pressure. This change was recommended by Soviet engineers. The result was the saving of a year, the time estimated to be required to drive the piles. The entire job can be completed in 3 months.

EXTENSIVE CONSTRUCTION ON BRANCHES OF HUAI HO -- Hankow, Ch'ang-chiang Jih-pao, 26 Apr 52

A total of 7 million cubic meters of material is being moved in dike repair and building on the Hung Ho, Ju Ho, Pei-ju Ho, Kuei-wang Ho, Lien Chiang, and Yu Chiang, all tributaries of the Huai Ho. Work was begun on the conduits for the

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Po-shan and Nan-wan reservoirs in March and April. Some workers are employed in repair work on the Pai-sha Reservoir overflow conduits and tunnels. Most of the workmen in this area are engaged in building the 1,200-meter dam. Fifty-nine percent of the earthwork is finished.

Because of the visible material benefits received by the peasants from the flood-control work done in the past 2 years in the Huai Ho valley they are very enthusiastic in volunteering for work this year. There are three types of workers, full-paid workers, semivolunteers, [partly paid], and full volunteers. The peasants at home are happily caring for the planting and cultivation of their land for the families of the peasants who are busy on the flood-control projects.

In some localities the villagers have made the following pledges: (1) to do the work for the flood-control workers' families first, their own afterward; (2) to haul fertilizer, plant kaoliang, and hoe wheat once for flood-control workers; (3) to assure that flood-control workers are kept supplied with food, fuel, and clothing on the job; (4) to aid the families of the flood-control workers in every way possible; (5) to carry out their promises in full.

CHINA'S LARGEST FLOOD-CONTROL RESERVOIR BEGUN -- Tsingtao Jih-pao, 6 Feb 52

The nation's largest flood-control reservoir, designed when completed to hold 2 billion cubic meters of water, has been started on the Yung-ting Ho near Kuan-t'ing Ts'un in Huai-lai Hsien, Chahar Province. The Yung-ting Ho, the largest stream of the Pai Ho system, registers a wide range of water flow between low water and flood stage.

In flood, the river carries a vast amount of sediment, sometimes approaching 50 percent of the total volume, which settles in the lower reaches of the river raising the bottom of the stream and leading to the flooding of large areas of farm land in that area every few years. During the last 50 years there have been seven devastating floods in the area. The greatest of these inundated 2,000 square kilometers.

Plans are also drawn for the construction of two other reservoirs on this river to bring it under control and use its heretofore erratic resources for irrigation and eventually for electric power. The two other reservoirs planned will be located at Shih-chai-li and Ma-ko-chuang, respectively. Thus the upper and mid-reaches of the river will be well controlled releasing the peasants along the whole length of the river from their age-long tribulations of alternate drought and flood.

The main features of the Kuan-t'ing reservoir will be a 50-meter-high earth dam, an irrigation water diversion tunnel and a flood overflow channel. Work has already been done on the diversion tunnel and later in the spring work will begin on the dam itself. The area of the reservoir will be more than 200 square li.

When completed the three dams will not only prevent a great deal of loss to the farmers, but will save the nation a great deal of capital outlay now required every year to maintain temporary flood-control activities.

CORRUPT PRACTICES OF PRIVATE FIRMS -- Hankow, Ch'ang-chiang Jih-pao, 12 Apr 52

From a correspondent in Honan this paper has learned that the Chung-hua Ssu-lien Engineering Corporation, and other private firms with which it is associated in bidding for work on the Pai-sha Reservoir of the Huai Ho flood-control enterprise have been guilty of malpractices resulting in great loss to the nation.

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By devious means of bribery and corruption of members of the committee in charge of the work, the Ssu-lien Corporation was able to avoid competitive bidding for the jobs it sought. It was able to have cost estimates accepted that were far above the estimates of most of the engineers who had planned the project. The corporation also stole national economic secrets to further its nefarious designs.

Some comparative figures showing to what lengths the cupidity of these private firms led them, are as follows:

<u>Item</u>	<u>Actual Requirement</u>	<u>Corporation Estimate</u> (which secured the contract)
Labor for cement mixing (man-days)	3,500	8,334
Diesel oil (tons)	3	41.3
Cement (tons)	944	1,875
Timber (cu m)	2,274	6,000
Gravel (yuan/cu m)	40,000	100,000
Oil (yuan)	300 million	3 billion
Wu-sung-hu and Lao-wang-p'o culverts (yuan)	4 billion	6 billion
Pai-sha Settling Basin (yuan)	3 billion	11.7 billion
Control costs (%)	7	8-10

Not only did these capitalistic firms cheat the people in their charges for the work, but also they cheated in the quality of work done and in the materials used. In driving piles for the Lao-wang-p'o lock foundation, they drove 23 piles a day when they should have driven only five for a proper job. In thus hurrying the work they drove the piles obliquely and splintered their tops. In constructing the lock they failed to follow blueprints. They used old metal where new was required.

On the Pai-sha Reservoir the contractors failed to mix the concrete properly and then poured it into the forms from such a height that the gravel and cement were separated resulting in the wall being honeycombed with air pockets. The specifications for the drainage of the settling basin called for one drain pipe for each 2 square meters of surface. The contractors unilaterally changed this to one pipe for every 20 square meters. They did not provide nonporous layers under the pipes. Already a portion of this construction is of no use. They did a poor job on welding steel plates and then painted it to hide the poor work.

To realize more on their management profits [apparently a cost plus contract], the corporation built an unnecessary concrete overflow dam 3 meters high. Thus they not only wasted 14 billion yuan, but the concrete work they did was both unsatisfactory and unstable. Even before the flood season in 1951 the Lao-wang-p'o tunnel showed cracks. The Pai-sha Reservoir cut-off wall has already cracked, greatly imperiling the whole dam.

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At a mass meeting of 5,000 workers, held 21 March 1952, these actions of the corporation were condemned and their punishment demanded.

ENGINEERS CHARGED WITH SABOTAGE -- Hankow, Chang-chiang Jih-pao, 24 Apr 52

Two leading engineering command staff members in charge of lock installations at the Pai-sha Reservoir of the Huai Ho Flood-Control Project, because of faulty advance planning and frequent changes of specifications during construction, delayed the completion of the job for more than 40 days. Collapse of masonry work in the diversion tunnel being carried on under their direction resulted in killing two workmen and injuring several others.

These two engineers turned out to be representatives of capitalistic interests who had joined in the project to secure great profit from government funds and at the same time to sabotage the Huai Ho flood-control program. The plans they were using had been hastily copied from an American book of blueprints and were not suited to the situation. While construction was proceeding they changed the plan from that of using three lock gates to using four, and changed the pitch from one in three to one in five. These changes added greatly to the amount of work required. In an attempt to complete the job on schedule, they used high-pressure labor methods to the great detriment of the welfare of the workers.

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